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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Peter Mahr

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EXAMINER

AGUSTIN, PETER VINCENT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,686	Applicant(s) MAHR ET AL.	
	Examiner Peter Agustin	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 13 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This application is a national stage entry (371) of PCT/EP04/13506, filed November 26, 2004.
2. Claims 1-9, 12 & 13 are currently pending.

Unity of Invention

3. Newly submitted claim 13 is directed to an invention that lacks unity with the invention originally claimed for the following reasons: claim 13 has the special technical feature “classifying an abnormal region as belonging to a first group of types if the abnormalities of the detected signal are caused by the physical characteristics of the recording medium and classifying an abnormal region as belonging to a second group of types if the abnormalities of the detected signal are caused by erroneous data”, which special technical feature is not required by the originally presented claims which have already been examined.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 13 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Drawings

4. A replacement drawing for Figure 1 was received on June 11, 2008. This drawing is acceptable.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9 & 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kühn et al. (US 5,485,444).

In regard to claim 1, Kühn et al. disclose a method for analyzing an abnormal region on an optical recording medium (title: “signalization of types of defects of an optical information carrier”), including the steps of: detecting the abnormal region (column 6, lines 49-50: “an evaluation of defective frames in error burst”); measuring the radial extension of the abnormal region perpendicular to a track direction (column 6, lines 55-61: “five neighboring tracks”, “three neighboring tracks k.”); and determining the type of the abnormal region based on the measured radial extension (column 6, lines 54-55: “distinction between errors caused by fingerprints, scratches and black dots”; column 6, lines 55-61: “It has become apparent that the reparable cause of error fingerprint is present as a first type of error FA1 when more than three error bursts h appear in five neighboring tracks k. On the other hand, scratches and black dots as second type of error FA2 are identified by the appearance of up to three error bursts h in three neighboring tracks k.”); wherein the step of determining the type of the abnormal region includes making a jump over the abnormal region perpendicular to the track direction (understood from the teaching that the number of “neighboring tracks” with “error bursts” are counted) and obtaining information on the type of abnormal region during the jump (column 6, lines 49-55: “a size of error burst h relating to a subcode block time corresponding to four frames within a 96 frame was selected in order to enable, in combination with a number of tracks k to be examined

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regarding the appearance of errors, a distinction between errors caused by fingerprints, scratches and black dots”).

In regard to claim 2, Kühn et al. disclose that the step of determining the type of the abnormal region further includes: differentiating between a first group of types (column 6, lines 49-55: “scratches and black dots”) and a second group of types (column 6, lines 49-55: “fingerprints”) of abnormal region based on the obtained information (column 6, lines 49-55: “size of error burst”; “number of tracks”).

In regard to claim 3, Kühn et al. disclose that the step of obtaining information on the type of abnormal region during the jump includes evaluating a data signal and/or a track crossing signal (column 6, lines 49-61: “number of tracks”; “neighboring tracks”) obtained from the optical recording medium.

In regard to claim 4, Kühn et al. disclose that the step of measuring the radial extension of the abnormal region includes measuring the time needed for jumping over the abnormal region (column 3, lines 13-16: “a measuring (test) signal is derived from the high frequency signal and the appearance of said measuring signal within an upper and lower threshold value is established over a time period characterizing the cause of error”; column 3, lines 36-39: “The time range characterizing fingerprint as cause of error is preferably a duration of 4 ms or longer in which the measuring signal, derived from the high frequency signal, appears within the threshold values”).

In regard to claim 5, Kühn et al. disclose jumping back to the start of the abnormal region (understood from column 7, lines 22-25: “the fingerprint cause of error is determined from the high frequency signal RF detected from the optical disk by the playback device 1”); reading data

stored in the abnormal region (“high frequency signal RF”); and evaluating the data for determining the type of abnormal region (column 7, lines 22-25: “the fingerprint cause of error is determined from the high frequency signal RF”) (see also column 11, lines 8-24).

In regard to claim 6, Kühn et al. disclose that the step of evaluating the data for determining the type of abnormal region includes evaluating a sync signal included in the data (column 6, lines 29-31: “first subcode synchronizing signal SCOR”; line 38: “subcode ATIME”; lines 50-55: “a size of error burst h relating to a subcode block time”).

In regard to claim 7, Kühn et al. disclose that the step of measuring the radial extension of the abnormal region includes counting the number of wrong syncs in the abnormal region (column 6, lines 50-55: “a size of error burst h relating to a subcode block time corresponding to four frames within a 96 frame was selected in order to enable, in combination with a number of tracks k to be examined regarding the appearance of errors, a distinction between errors caused by fingerprints, scratches and black dots”).

In regard to claim 9, Kühn et al. disclose that the types of abnormal region include at least one of a groove region, a mirror region, a defect region, a wrong bitrate region and a wrong structure region (title: “defects”).

In regard to claim 12, Kühn et al. disclose that the step of differentiating between a first group of types and a second group of types of abnormal region based on the obtained information includes: classifying an abnormal region as belonging to the first group of types if an evaluation of the abnormal region does only take a short time (column 6, lines 55-61: “scratches and black dots”; “up to three error bursts h in three neighboring tracks k.”) compared with the evaluation of the abnormal region in the second group of types (column 6, lines 55-61:

“fingerprint”; “more than three error bursts h appear in five neighboring tracks k”); and otherwise classifying an abnormal region as belonging to the second group of types (column 6, lines 55-61: “fingerprint”; “more than three error bursts h appear in five neighboring tracks k”).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kühn et al. in view of Mitarai (JP 54048213 A).

For a description of Kühn et al., see the rejection above. However, Kühn et al. do not disclose: in regard to claim 8, a step of storing the position, the radial extension and/or the type of the abnormal region on the optical recording medium.

Mitarai discloses: in regard to claim 8, storing the position and the radial extension of an abnormal region of an optical recording medium (abstract: “stores the presence or not, quantity, length, position, etc. of the defect areas”).

It would have been obvious to one of ordinary skill in the art at the time of invention to have applied these teachings of Mitarai to the method of Kühn et al., the motivation being to improve the utilization efficiency of the optical recording medium and to simplify design (see purpose).

Response to Arguments

9. Applicant's arguments filed June 11, 2008 have been fully considered but they are not persuasive.

(a) The applicant argues on page 9, third to the last paragraph that Kühn et al. fails to teach, suggest or disclose “making a jump over the abnormal region perpendicular to the track direction”. The examiner disagrees. The applicant is first directed to the recitation in claim 1, i.e., “wherein the step of determining the type of the abnormal region includes making a jump over the abnormal region perpendicular to the track direction and obtaining information on the type of abnormal region during the jump”. As noted in the rejections, the claimed “obtaining information on the type of abnormal region” corresponds to Kühn et al.’s teaching in column 6, lines 54-55: “distinction between errors caused by fingerprints, scratches and black dots”, more specifically, in column 6, lines 55-61: “It has become apparent that the reparable cause of error fingerprint is present as a first type of error FA1 when more than three error bursts h appear in five neighboring tracks k. On the other hand, scratches and black dots as second type of error FA2 are identified by the appearance of up to three error bursts h in three neighboring tracks k.” Kühn et al.’s teaching of “three error bursts”, “three neighboring tracks”, and “five neighboring tracks” clearly suggests an inherent mechanism for counting these error bursts and counting the adjacent neighboring tracks. In order to count the number of “error bursts” and the extent of the “neighboring tracks”, it is necessary for an optical head to “jump over the abnormal region”.

(b) In response to applicant's arguments on page 9, second to the last paragraph that amended claim 1 "has the advantage that a valid track is found soon without scanning the whole invalid tracks", and "according to the invention of the applicant, a jump is made perpendicular to the erroneous track until a valid track region is found and guidance on this track can be maintained": (1) these are not recited in the claims; and (2) according to claim 1 itself, the type of abnormal region is obtained "*during the jump*".

(c) In response to applicant's arguments on page 10, second paragraph regarding new independent claim 13, please see Unity of Invention section above.

(d) The applicant argues on page 10, last paragraph that Kühn et al. does not teach, suggest or anticipate "categorizing the different types of errors in dependence of the time it will consume to evaluate the defective region". The examiner disagrees. Column 6, lines 55-61 teach that the errors are categorized as "scratches and black dots" when "up to three error bursts h in three neighboring tracks k." while the errors are categorized as "fingerprints" when "more than three error bursts h appear in five neighboring tracks k". Note that in column 3, lines 13-16, Kühn et al. teach that "a measuring (test) signal is derived from the high frequency signal and the appearance of said measuring signal within an upper and lower threshold value is established over a time period characterizing the cause of error"; and in column 3, lines 36-39: "The time range characterizing fingerprint as cause of error is preferably a duration of 4 ms or longer in which the measuring signal, derived from the high frequency signal, appears within the threshold values". From these teachings it is understood that the different types of errors are categorized in dependence of the time consumed to evaluate the defective region.

(e) In response to applicant's argument on page 11 that the Mitarai reference fails to teach "making a jump over the abnormal region perpendicular to the track direction", it should be noted that the Kühn et al. reference is relied upon for these limitations, see item (a) above.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Agustin whose telephone number is (571) 272-7567. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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